

With Mr. Whitehead's Compliments

(13)

REMOVAL OF THE TONGUE

FOR

CANCER

BY THE GALVANIC ÉCRASEUR.

BY

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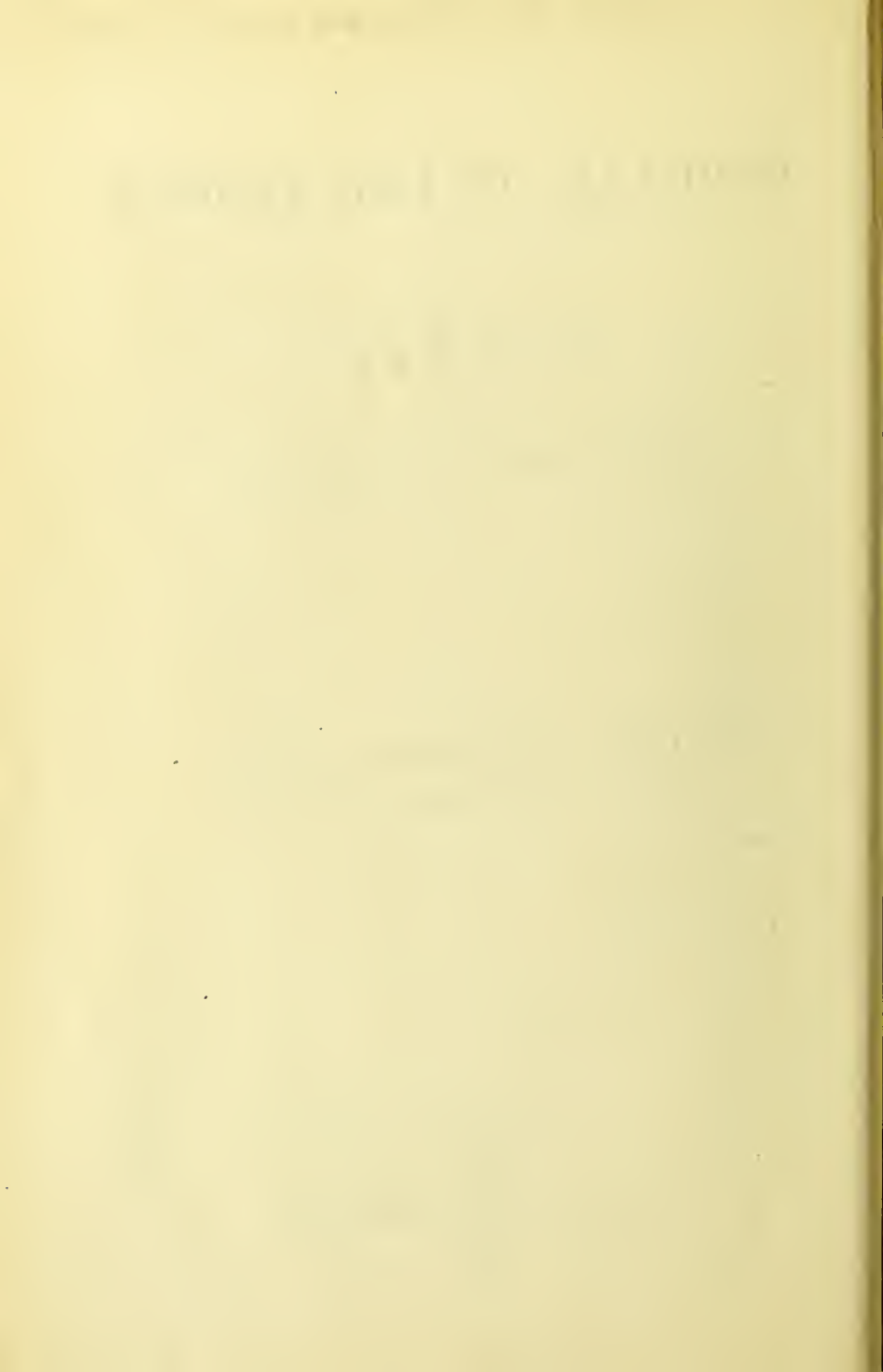
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REMOVAL OF THE TONGUE FOR CANCER

BY THE GALVANIC ÉCRASEUR.

Mrs. S—, æt. 69, from Oldham, presented herself to my notice November 29th, 1872, suffering from cancer of the tongue. The primary nodule was detected upwards of a year ago in the right lateral half of the tongue, within an inch from the apex, and thence it had extended beyond the median boundary to the left side and backwards to the margin of the *papillæ circumvallatæ*. The surface of the indurated portions was ulcerated, and bore the characteristic features of cancerous origin. The excruciating pains, swelling, and inconvenience suffered by the patient were also those usually attendant on cancer of the tongue. A year previous to her first-symptoms she had lost a brother who had died from cancer of the tongue.

An operation for the removal of the tongue was arranged for Dec. 4th, 1872. The patient being completely under the influence of chloroform, the tongue was firmly drawn upwards and forwards during the operation by a ligature which was passed through the tip. A loop of the galvanic écraseur wire was then passed into the mouth by a needle in the central line, midway between the jaw and the os hyoides, in close proximity to the tongue. The loop was then passed over the tongue into the sulcus in front of the epiglottis, and retained in this position by means of the forefingers of each hand until the wire had obtained firm hold of the structures within its grasp. At this stage, and not before, the galvanic circuit was made complete,

and the platinum wires allowed to become sufficiently hot to give unmistakable indications of burning animal matter. A single turn of the *écraseur* screw was made every half minute, and during each pause the galvanic current was interrupted.

About eleven turns of the *écraseur* sufficed to remove the tongue. No bleeding occurred, either during or succeeding the operation, and immediately after the effects of the chloroform had passed off, the patient sat up out of bed for a quarter of an hour. For the first two days she was fed with warm milk, which she easily swallowed after it had been conveyed to the back of the mouth by means of an ordinary glass syringe. Afterwards she was able to take fluid food naturally. A large slough separated from the floor of the mouth at the end of the second week, and a small slough came away from beneath the jaw about the same time; the latter left a fistulous communication with the mouth through which the saliva escaped to an inconvenient degree; it, however, gradually contracted and is now entirely closed. At the end of three weeks the patient returned home so far recovered as no longer to require further attendance. She was able when last seen, January 28th, 1873, to articulate with admirable distinctness, and admitted to being free from all pain and perfectly satisfied at having undergone the operation.

The *écraseur* used in this operation fulfilled all the requirements of an ordinary wire *écraseur*, and the combination of the galvanic cautery left nothing to be desired. The only objection to the operation, as performed in this instance, was that occasioned by the heated wire burning the structures in its course into the mouth, and this for the future ought to be obviated by dividing, according to the plan of Sir James Paget, the mucous membrane and structures connecting the sides of the tongue to the jaw, and also the attachments of the *genio-hyo-glossi* to the symphysis, close to the bone, and when the tongue is thus freed and drawn forwards to adjust the wire of the *écraseur*, so as to include the whole of it close to its connection with the hyoid bone.

The accompanying electrotpe conveys a full representation

of the several parts of the galvanic *écraseur* as made by Messrs. Krohne and Sesemann.

Removal of the tongue in the restricted sense—that is, without attempting the entire extirpation of its deeper attachments to the hyoid bone—is one of almost absolute safety, and invariably followed by an alleviation of the unparalleled suffering caused by cancer of that organ, and it appears doubtful whether the more extended operation is warranted by any adequate benefits that can be fairly promised to the patient. When we take into consideration the great mortality which has followed extirpation of the tongue in its strict entirety, involving, as it does, either division of the lower jaw or the extensive submental incisions of Rignoli, with a mortality in the former instance of little short of 50 per cent., and in the latter certainly 25 per cent., it requires a full belief that cancer of the tongue may be local in its origin, and curable by removal, to justify the major operation. Regulating our motives and actions by the stern facts gathered by experience, our operations for cancer of the tongue, as in cancer elsewhere, have to end in a mitigation of suffering and a limited prolongation of life. With this conviction the galvanic *écraseur* can be recommended as answering every purpose for removal of the tongue.

One advantage over the knife which may be claimed for the galvanic *écraseur* is the amount of destruction the heat occasions to the structures contiguous to the part removed—an action which cannot fail to modify, for a considerable extent, the tissues which might also be infected with the disease.

A feature in the case recorded worthy of mention is the facility experienced in adjusting the *écraseur* wire by means of the forefinger of each hand, and the retaining of it *in situ* until the screw of the *écraseur* was tightened. Various ingenious instruments have been devised to effect this object, but that the most successful of these instruments can be proved as reliable as the fingers has yet to be demonstrated; the fingers can not only apply the wire, but they can ascertain whether the

adjustment is correct, or if in fault, remedy the mistake before any irregularity can be committed.

The speed at which the screw of the *écraseur* is turned is of importance so far as the prevention of hæmorrhage is concerned, and the best rule to follow is, less the resistance slower the speed, and *vice versa*,² the resistance being in an *inverse ratio* to the vascularity.

It is the custom of some surgeons not to administer chloroform before the *écraseur* has been tightened so as to fix the loop round the base of the tongue, with the belief that up to this point there is but little pain, and that the voluntary efforts of the patient materially assist the surgeon; on the other hand, it is asserted that when voluntary assistance is of the most use the pain caused by manipulation is the greatest, and that after the *écraseur* is firmly tightened the pain is diminished. Consequently it is much to be preferred that the patient should be thoroughly under chloroform from the very first, when the absence of resistance will be, at the least, equal to any assistance the patient could afford were he not unconscious.

FIG. 1.—Galvanic *écraseur*.

FIG. 2.—Side view.

The instrument consists of four separate and separable parts:—*a*, The handle; *b*, a screw on which travels a clamp (*h*); *c*, canulæ through which the wire passes; *d*, platinum wire loop; *e*, ivory “interrupter” to connect or break the galvanic current by slight pressure of the thumb; *f*, sockets into which the canulæ can be fixed by screws; *g*, receptacle for connecting wires from battery; on the long screw (*b*) rides the clamp (*h*), between the jaws of which the ends of the platinum wires can be fixed by a screw.

